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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/571,997

03/09/2007

Henning Buchold

23508

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04/30/2008

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EXAMINER

GODENSCHWAGER, PETER F

ART UNIT

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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/571,997	<b>Applicant(s)</b> BUCHOLD ET AL.	
	<b>Examiner</b> PETER F. GODENSCHWAGER	<b>Art Unit</b> 1796	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 28 January 2008.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-8 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-8 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)          | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

### **DETAILED ACTION**

Applicants' reply filed January 28, 2008 has been fully considered. Claims 1-4 are amended, claims 5-8 are new, and claims 1-8 are pending.

#### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claim 1 is rejected under 35 U.S.C. 103(a) as being unpatentable over Smith (US Pat. No. 4,443,622) when taken with Harder et al. (US Pat. No. 4,436,668) and in view of Burgman et al. (US Pat. No. 5,709,950).

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Smith teaches a process of reacting polymeric multifunctional alcohols (diethylene glycol) with urea under a vacuum at 150 °C or 160 °C (Examples II, III, and IV) to up to 200 °C (2:25-30). The Office recognizes that the claimed products are not positively taught by the reference, namely the formation of carbamate and carbonate reaction products. However, the reference teaches all of the claimed ingredients, process steps and process conditions. Therefore, the claimed products would inherently be achieved by carrying out the disclosed process, as evidenced by Harder et al. which shows that carbamic acid esters (which could be carbamates formed from a initial reaction of urea and an alcohol) further react with another equivalent of alcohol to form carbonates especially at temperatures above 140 °C (1:45-65).

Smith does not teach the polymeric multifunctional alcohol as a polyether polyol with a branched chain alkylene group. However, Burgman et al. teaches reacting polyetherpolyols such as poly(oxy-1,2-propylene) glycol with 8-100 repeat units (a compound of formula I of instant claim 1 where R is a branched propyl group) with urea to form carbamates (5:21-40, 58-62). Smith and Burgman et al. are combinable because they are concerned with solving a problem of similar technical difficulty, namely reacting polymeric multifunctional alcohols with urea to form carbamates. At the time of the invention, a person of ordinary skill in the art would have found it obvious to use the poly(oxy-1,2-propylene) glycol with the teachings of Smith and would have been motivated to do so because Burgman et al. teaches that the reaction are useful in formulating colored film-forming base coats (1:65-2:20). Furthermore, Burgman et al. teaches that one could make these carbamates using reaction conditions typically employed by those skilled in the art when reacting polyols with urea (5:58-62).

Claims 2-4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Smith (US Pat. No. 4,443,622) when taken with Harder et al. (US Pat. No. 4,436,668) and in view of Burgman et al. (US Pat. No. 5,709,950).

Smith teaches a process of reacting polymeric multifunctional alcohols (diethylene glycol) with urea under a vacuum at 150 °C or 160 °C (Examples II, III, and IV) to up to 200 °C (2:25-30) in the presence of a catalyst such as magnesium oxide (an oxide of a group IIb element) (2:35-41). The Office recognizes that all of the claimed composition properties are not positively taught by the reference, namely the formation of carbamate and carbonate reaction products. However, the reference teaches all of the claimed ingredients, process steps and process conditions. Therefore, the claimed composition properties would inherently be achieved by carrying out the disclosed process, as evidenced by Harder et al. which shows that carbamic acid esters (which could be carbamates formed from a initial reaction of urea and an alcohol) further react with another equivalent of alcohol to form carbonates (1:45-65).

Smith does not teach the polymeric multifunctional alcohol as a polyether polyol with a branched chain alkylene group. However, Burgman et al. teaches reacting polyetherpolyols such as poly(oxy-1,2-propylene) glycol with 8-100 repeat units (a compound of formula I of instant claim 1 where R is a branched propyl group) with urea to form carbamates (5:21-40, 58-62). Smith and Burgman et al. are combinable because they are concerned with solving a problem of similar technical difficulty, namely reacting polymeric multifunctional alcohols with urea to form carbamates. At the time of the invention, a person of ordinary skill in the art would have found it obvious to use the poly(oxy-1,2-propylene) glycol with the teachings of Smith and would have been motivated to do so because Burgman et al. teaches that the reaction are useful

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in formulating colored film-forming base coats (1:65-2:20). Furthermore, Burgman et al. teaches that one could make these carbamates using reaction conditions typically employed by those skilled in the art when reacting polyols with urea (5:58-62).

Claim 5 rejected under 35 U.S.C. 103(a) as being unpatentable over Smith (US Pat. No. 4,443,622) when taken with Harder et al. (US Pat. No. 4,436,668).

Smith teaches a process of reacting polymeric multifunctional alcohols (diethylene glycol, the compound of formula I where  $n=2$  and  $R=\text{ethylene}$ ) with urea under a vacuum at 150 °C or 160 °C (Examples II, III, and IV) to up to 200 °C (2:25-30). The Office recognizes that the claimed products are not positively taught by the reference, namely the formation of carbamate and carbonate reaction products. However, the reference teaches all of the claimed ingredients, process steps and process conditions. Therefore, the claimed products would inherently be achieved by carrying out the disclosed process, as evidenced by Harder et al. which shows that carbamic acid esters (which could be carbamates formed from a initial reaction of urea and an alcohol) further react with another equivalent of alcohol to form carbonates especially at temperatures above 140 °C (1:45-65).

Claims 6-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Smith (US Pat. No. 4,443,622) when taken with Harder et al. (US Pat. No. 4,436,668).

Smith teaches a process of reacting polymeric multifunctional alcohols (diethylene glycol, the compound of formula I in instant claim 6 where  $n=2$  and  $R=\text{ethylene}$ ) with urea under a vacuum at 150 °C or 160 °C (Examples II, III, and IV) to up to 200 °C (2:25-30) in the presence

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of a catalyst such as magnesium oxide (an oxide of a group IIb element) (2:35-41). The Office recognizes that all of the claimed composition properties are not positively taught by the reference, namely the formation of carbamate and carbonate reaction products. However, the reference teaches all of the claimed ingredients, process steps and process conditions. Therefore, the claimed composition properties would inherently be achieved by carrying out the disclosed process, as evidenced by Harder et al. which shows that carbamic acid esters (which could be carbamates formed from a initial reaction of urea and an alcohol) further react with another equivalent of alcohol to form carbonates (1:45-65).

Smith does not teach reacting a polyether polyol where R of formula I in instant claim 5 is an alkyl chain of 3 carbons. However, Official notice is taken that it would be obvious to add a further  $\text{-CH}_2\text{-}$  group to change an ethylene to a propylene as these would be homologs of each other. See MPEP 2144.09:

Compounds which are position isomers (compounds having the same radicals in physically different positions on the same nucleus) or homologs (compounds differing regularly by the successive addition of the same chemical group, e.g., by  $\text{-CH}_2\text{-}$  groups) are generally of sufficiently close structural similarity that there is a presumed expectation that such compounds possess similar properties. *In re Wilder*, 563 F.2d 457, 195 USPQ 426 (CCPA 1977). See also *In re May*, 574 F.2d 1082, 197 USPQ 601 (CCPA 1978) (stereoisomers *prima facie* obvious).

At the time of the invention a person of ordinary skill in the art would have found it obvious to use a propylene group instead of an ethylene group and would have been motivated to do so because there would be a reasonable expectation of success that the compounds would behave similarly.

### ***Double Patenting***

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the “right to exclude” granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 2, 3, and 6-8 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claim 1 of copending Application No. 10/571,479. Although the conflicting claims are not identical, they are not patentably distinct from each other because they significantly overlap in scope.

Claims 2, 3, and 6-8 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1 and 3 of copending Application No. 10/571,476. Although the conflicting claims are not identical, they are not patentably distinct from each other because they significantly overlap in scope.



This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

### ***Response to Arguments***

Applicant's arguments filed January 28, 2008 have been fully considered but they are not persuasive.

While it is clear that the intent of the Smith reference is a teaching of a method for producing carbamates, when taken with Harder et al., and its teaching that carbonates are formed at temperatures greater than 140 °C when reacting alcohols and carbamates, it is clear that some amount of carbonate would inherently be produced by following the procedures of Smith. Harder et al. is not being used as motivation for forming carbonates using the urea and polyether polyols of Smith, it is only used as an evidentiary reference showing the inherency of forming carbonate by-products under the reaction conditions of Smith. Furthermore, Smith does not teach pure products, only relatively pure products (2:18-19), indicating that carbamates are not the sole reaction product formed.

With regards to the obviousness-type double patenting rejections, it is held that method claims 2, 3, and 6-8 of the instant application substantially overlap claim 1 of copending Application No. 10/571,479 and claims 2 and 3 of copending Application No. 10/571,476.

### ***Conclusion***

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

### ***Correspondence***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to PETER F. GODENSCHWAGER whose telephone number is (571)270-3302. The examiner can normally be reached on Monday-Friday 7:30-5:00 EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark Eashoo can be reached on (571) 272-1197. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/MARK EASHOO/  
Supervisory Patent Examiner, Art Unit 1796  
27-Apr-08

PFG  
April 25, 2008